

Vaisala Veriteq VL 2000 Temperature Humidity Loggers



Vaisala's Veriteq VL 2000 series loggers are fully validatable and designed for regulated industries/pharmaceutical applications — with NIST-traceable, ISO/IEC 17025 calibration, cGMP/FDA compliant measurement and redundant recording of temperature and humidity.

VL 2000 loggers provide the most single important feature in validatable instrumentation: all data are recorded in real-time at the point of measurement. Data is backed up with triple redundancy and maintained in a secure format for later review and reporting.

Designed for the most demanding mapping applications, the Veriteq validation system is a powerful, easy-to-use alternative to thermocouple-based equipment and bulky data acquisition systems. A complete solution, our mapping tools eliminate costly downtime from pre- and post-calibration and deliver accurate, validatable results.

Technical Specifications

Type of sensor	Integrated high-accuracy capacitive polymer RH sensor
Initial Accuracy	$\pm 1\%RH$ over 10%RH to 90%RH at +20°C to +30°C $\pm 2\%RH$ over 10%RH to 90%RH at -20°C to +70°C
Operating range	-35°C to +85°C, 0% RH to 100% RH (non-condensing)
Resolution	0.05% RH
1-year Accuracy	* $\pm 2\% RH$ over 10% RH to 90% RH at +20°C to +30°C $\pm 3\% RH$ over 10% RH to 90% RH at -20°C to +70°C
(*denotes Accuracy One Year after original deployment)	
Calibration Interval	Annual (recommended)
Internal Temperature Sensor	
Initial Accuracy	$\pm 0.10^\circ C$ over +20°C to +30°C $\pm 0.15^\circ C$ over -25°C to +70°C
Operating range	-35 to +85°C (-31 to 185°F)
Resolution	0.02°C at +25°C
1-year Accuracy	$\pm 0.15^\circ C$ over 20°C to +30°C $\pm 0.25^\circ C$ over -25°C to +70°C
General Humidity Logger Specifications	

Size	3.4 x 2.3 x 1" (85x59x26mm); 76g (2.7 oz)
Operating Range	-35 to 85°C (-31 to 185°F) and 0% RH to 100% RH
Interfaces	RS-232 serial, USB, Ethernet, WiFi, PoE network interface available.
Mounting	Magnetic strips; 3M Dual Lock™ fasteners
Software	Compatible with the following software packages: Veriteq Spectrum, Veriteq viewLinc (continuous monitoring application), Excel Add-in, Spectrum API, and OPC Server to integrate other loggers with non- compatible monitoring systems.
Clock	Accuracy: ± 1 min./month at -25° C to 70°C.
Electromagnetic Compatibility	FCC Part 15 and CE EN55022:2006 EN61000-4-2:2001 EN 61000-4-3:2006
Power Source	Internal lithium battery with life of 10 years at 1 min. sampling rate or longer. See note on sample rates and battery life.

Memory

Memory Type	Non-volatile EEROM
Data Sample Capacity	122,197 12-bit samples
Memory Modes	User-selectable wrap (FIFO) or stop when memory is full. User-selectable start and stop times.
Memory Protection	Data retention > 20 years backup without power.
Sampling Rates	User-selectable (in intervals of 10 seconds) from once every 10 seconds to once a day. Note: 10-year battery life is specified at 1 minute sample rate. Shorter sample intervals will affect battery life.

Channel Configuration & Recording Span

Model Number	Channel Types			
	CH1	CH2	CH3	CH4
2000-3CR	Temperature	RH	Current 4 to 20 mA	
2000-35R	Temperature	RH	Voltage 0 to 5 VDC	
2000-3AR	Temperature	RH	Voltage 0 to 10 VDC	
2000-4BR	Temperature	RH	Boolean	Boolean

Sample Interval	Number of Channels Enabled*			
10 seconds	14.1 days	7.1 days	4.7 days	3.5 days
1 Minute	2.8 months	1.4 months	23.8 days	21.2 days
5 Minutes	1.2 years	7.1 months	4.7 months	3.5 months
15 Minutes	3.5 years	1.7 months	1.2 years	10.6 months
1 hour	13.9 years	7.0 years	4.6 years	3.5 years

Current Loop & Voltage Inputs

Input Type	Current Loop	Analog Voltage
Available Ranges	0 to 22mA	0 to 5VDC, 0 to 10VDC
Resolution	5.5µA	0.025%F.S.
Accuracy	±0.15% at +25°C (+77°F)	±0.15% at +25°C (+77°F)
Input Impedances	75 Ohms**	>1MOhms
Isolation	One common for logger	One common for logger
Overload Protection	40 mA max. (reverse-polarity protected)	±24 VDC max. (reverse-polarity protected)

***Temperature channel must be enabled when the RH channel is enabled. **Termination resistance plus approximately 0.4 volt drop through a protection diode.*

Vaisala Veriteq SP 2000 Temperature Humidity Loggers



Vaisala Veriteq SP-2000 precision temperature and humidity data loggers are compact, powerful and easy-to-use recorders for monitoring critical humidity-sensitive products and processes, such as those in labs, cleanrooms, and stability chambers.

Our self-powered humidity data loggers include on-board humidity & temperature sensors, non-volatile memory, 10-year battery and a precision clock.

Ideal for use in standalone or networked applications, the 2000 data recorder connects directly to a PC with USB or installs to your existing network via Ethernet, Power over Ethernet, or WiFi.

The SP-2000 also features an optional external channel with current or voltage inputs to record parameters such as differential pressure, CO₂, level, particles, or conductivity. An optional Boolean channel connects to door switches or alarm contacts.

SP-2000 data loggers are easy-to-use alternatives to chart recorders and bulky data acquisition systems. Self-contained and battery-powered, these data loggers can be placed anywhere you need to measure temperature and humidity. No charts or wires are required.

Technical Specifications

Internal Relative Humidity Sensor

Type of sensor	Integrated high-accuracy capacitive polymer RH sensor
Initial Accuracy	±1%RH over 10%RH to 90%RH at +20°C to +30°C ±2%RH over 10%RH to 90%RH at -20°C to +70°C
Operating range	-35°C to +85°C, 0% RH to 100% RH (non-

	condensing)
Resolution	0.05% RH
1-year Accuracy	*±2% RH over 10% RH to 90% RH at +20°C to +30°C
(*denotes Accuracy One Year after original deployment)	±3% RH over 10% RH to 90% RH at -20°C to +70°C
Calibration Interval	Annual (recommended)

Internal Temperature Sensor

Initial Accuracy	±0.10°C over +20°C to +30°C ±0.15°C over -25°C to +70°C
Operating range	-35 to +85°C (-31 to 185°F)
Resolution	0.02°C at +25°C
1-year Accuracy	±0.15°C over 20°C to +30°C ±0.25°C over -25°C to +70°C

General Humidity Logger Specifications

Size	3.4 x 2.3 x 1" (85x59x26mm); 76g (2.7 oz)
Operating Range	-35 to 85°C (-31 to 185°F) and 0% RH to 100% RH
Interfaces	RS-232 serial, USB, Ethernet, WiFi, PoE network interface available.
Mounting	Magnetic strips; 3M Dual Lock™ fasteners
Software	Compatible with the following software packages: Vaisala Veriteq Spectrum, Vaisala Veriteq viewLinc, Spectrum Excel Add-in, Spectrum API (for custom applications) and OPC Server to add loggers onto compatible monitoring systems.
Clock	Accuracy: ± 1 min./month at -25° C to 70°C.
Electromagnetic Compatibility	FCC Part 15 and CE EN55022:2006 EN61000-4-2:2001 EN 61000-4-3:2006
Power Source	Internal lithium battery with life of 10 years at 1 min. sampling rate or longer.

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Memory Type	Non-volatile EEROM
Data Sample Capacity	122,197 12-bit samples
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Memory Protection	Data retention > 20 years backup without power.
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10 seconds	14.1 days	7.1 days	4.7 days	3.5 days
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